

## ABSTRACT

### PRIORITY RESOURCE ALLOCATION IN PROGRAMMING ENVIRONMENTS

An extension to a programming language provides for the fair allocation of resources in the programming language environment. A resource pool data object stores available resource objects.

5 A resource queue stores users waiting for resource object allocation. A method releases resources by placing the resources in the resource pool and by notifying users that a resource object has been released. An acquire resource method provides for users to be placed on the resource queue when there are no available resource objects. The acquire resource method waits on the availability of the resource object until the user comes to the head of the resource queue and a resource object is available, following which the resource object is returned to the user. Alternatively, a time out condition is reached once a predefined wait limit is met. The synchronization between methods and users waiting on resources is provided by the acquisition and release of a common lock.